



Abstract of the Disclosure:

An apparatus admits gas into the primary coolant of a pressurized water nuclear reactor having a coolant loop for a liquid coolant, in particular water, to which hydrogen is to be added. The coolant loop preferably includes a volume control tank for the coolant as well as at least one high-pressure pump which admits coolant that has been extracted from the coolant loop back into the coolant loop again. An admission point for the hydrogen is located in a suction line on the suction side of the high-pressure pump. A measurement line on the pressure side of the high-pressure pump communicates with the volume control tank or with a dewatering system. A device for measuring the hydrogen content in the coolant is incorporated into the measurement line. The measuring device is connected through a control device to a control valve, with which the delivery of hydrogen to the admission point can be controlled. The gas admission apparatus assures a definite, precisely maintained hydrogen content in the coolant.